



STRATEGIC  
TECH  
SOLUTIONS

CONNECTING BUSINESS & TECHNOLOGY



OUR SERVICE

# MODEL BASED SYSTEMS ENGINEERING (MBSE)



[www.stsllc.tech](http://www.stsllc.tech)

# MODEL BASED SYSTEMS ENGINEERING AT STS

Model-based systems engineering (MBSE) is a systems engineering methodology that uses models to represent and analyze systems throughout systems engineering life cycle. We use MBSE to improve the communication, collaboration, and understanding of systems among stakeholders and to automate the generation of system documentation. We help you create interconnected models that describe a system from multiple perspectives, such as functional, physical and end user behavior. Our AR/VR based immersive visualizations help you provide a real-life kind of experience to end users.

## MODEL BASED SYSTEMS ENGINEERING

(FUNCTIONAL AREAS)

01



### Define Smart Digital Models Connected by Digital Thread

- Replaces static documents
- Manages requirements, architecture, interfaces

02



### Establish Model Based Engineering Environment

- Integrated modeling tools (CAD, FEA, MBSE, etc.)
- Maximizes data reuse

03



### Requirements Driven System Design

Enhances requirements clarity & rigor, early focus on requirements to minimize rework, time & cost

04



### Dynamic Architecture Trace to Requirements

- Authoritative source of truth ensures consistent information
- Unified definition for all stakeholders and design teams

05



### AR/VR and Immersive Visualization

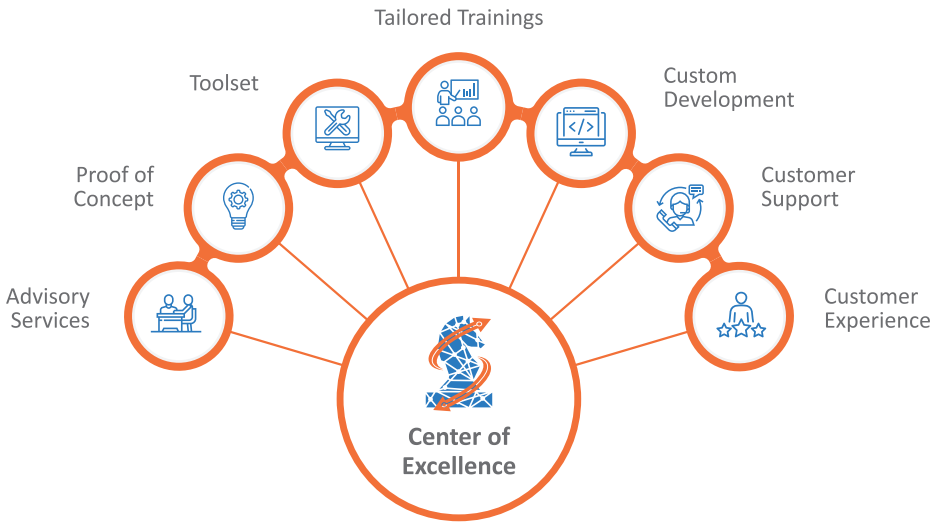
Reduces cost for training and demonstration events

06



### HWIL & SWIL Verification & Validation

Reduces testing time and cost



## YOUR MBSE JOURNEY

### FROM FOUNDATIONS TO EXCELLENCE

01

#### Getting Started with MBSE

Transitioning to Model Based Systems Engineering (MBSE) can be challenging and costly. STS can help organizations define their scope, establish foundational models, and implement effective tools to begin their MBSE journey by adding value in a cost-effective method.

02

#### Customizing MBSE and SysML

As you progress, we assist in tailoring the generic SysML modeling language and methodologies to fit your specific industry and organizational needs and existing practices, ensuring your models drive maximum efficiency and capability that aligns with your goals.

03

#### Integrating Digital Engineering Environments

Streamline your workflows by connecting MBSE with other digital tools like CAD, PLM, and simulation platforms. We can help you create a cohesive digital engineering environment that enhances collaboration, traceability, and real-time decision-making in an environment that makes sense for your company.

04

#### Auditing and Optimizing Models

Ensure the integrity and reliability of your models with expert audits. We can act as a 3rd party to identify risks, gaps, and areas for improvement to maintain alignment with best practices and objectives.

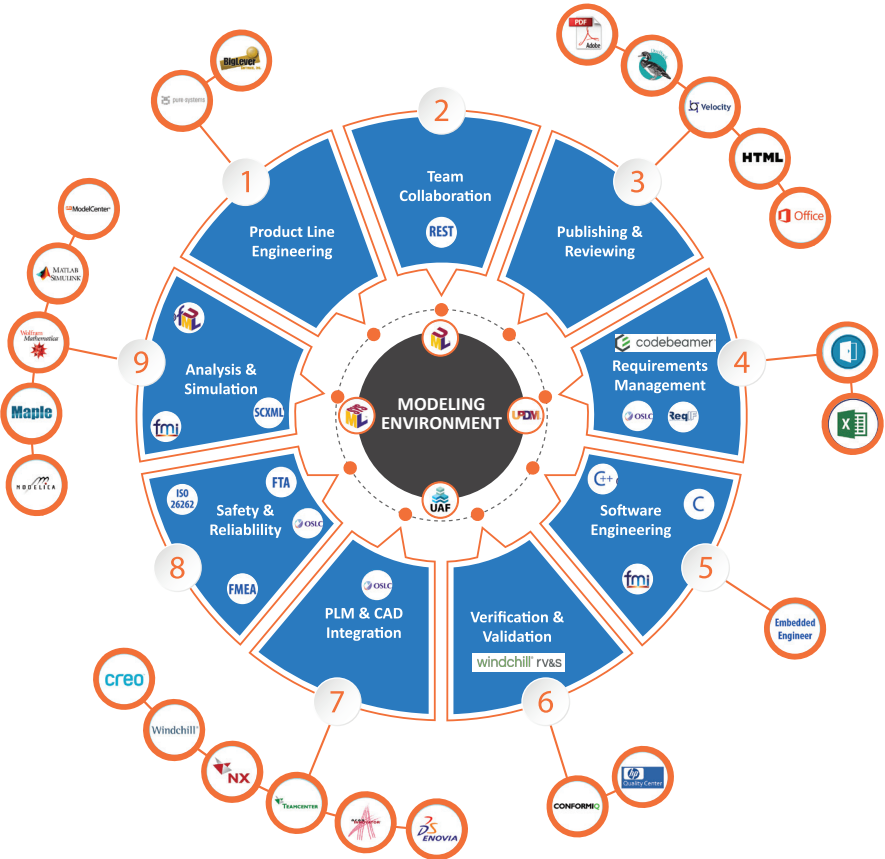
05

#### Stakeholder-Focused Presentation

Bridge the cultural gap between traditional and model-based approaches by making models accessible, clear, and engaging for all stakeholders. Our approach uses proven strategies that ensure seamless communication and collaboration across teams.

# MODEL BASED SYSTEMS ENGINEERING

(SYSTEMS, TOOLS & KNOWLEDGE STACK)



## DIGITAL THREAD

CONNECTING DATA ACROSS THE LIFECYCLE

The Digital Thread is the backbone of modern systems engineering, enabling seamless integration and traceability throughout a product's lifecycle. It connects every phase—from concept generation and requirements definition to deployment and maintenance—ensuring real-time collaboration and consistent data across tools and teams.

Strategic Tech Solutions empowers organizations to establish robust Digital Threads that unify their digital engineering environment. By linking tools like CAD, PLM, and simulation platforms, we help accelerate innovation, reduce rework, and deliver actionable insights to drive better decision-making.

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